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1962

Papers Concerning Logan Water Works; Correspondence

Dean F. Peterson
Utah State University

Alvin A. Bishop
Utah State University

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TECHNICAL SERVICES INCORPORATED
292 WEST CENTER STREET, PROVO, UTAH

JANUARY 15, 1962

MR. DEAN PETERSON
71 N. 2ND WEST
LOGAN, UTAH

DEAR MR. PETERSON:

WE ARE AT THE PRESENT TIME AWAITING FIRM BIDS FOR TEST PUMPING OF THE LOGAN CITY WELL. WE ARE ANTICIPATING PLACING THE PUMP BOWLS AT APPROXIMATE DEPTHS OF 210 TO 250 FEET. BECAUSE OF THE COSTS INVOLVED IN PLACING TEST PUMP BOWLS DEEPER THAN NECESSARY, WE HAVE ANTICIPATED THE DEPTHS NOTED.

WE HAVE ANTICIPATED ALSO A MINIMUM PUMPING CAPACITY OF 3 CUBIC FEET PER SECOND FOR THE TEST PUMPS AND A TEST PERIOD OF 48 HOURS IN ACCORDANCE WITH GENERAL CONDITIONS, PARAGRAPH 13, AND SPECIAL CONDITIONS, PARAGRAPH 12. WE WOULD APPRECIATE YOUR COMMENTS AND WILL CONTACT YOU FURTHER.

YOURS TRULY,

TECHNICAL SERVICES INCORPORATED

RALPH L. ROLLINS

RLR-DBD-JCM

January 27, 1962

Mr. Ralph Rollins, President
Technical Services Incorporated
292 West Center
Provo, Utah

Dear Ralph:

Regarding the test of the production well recently completed for Logan City, we are in hopes that you will be able to proceed with this work as soon as possible. We believe that the test pump should be able to deliver from 5 c.f.s. to perhaps 10 c.f.s., under a total head of 230 feet. Our thinking is that the pump bowls should be set at 215 feet with 10 feet of suction pipe below the bowls. This would place all of the equipment in the 20 inch casing above the 16 inch.

Setting the pump at 215 feet in the 20 inch casing should make it possible to get a pump large enough to test the well to as much as 10 c.f.s. if it proves to be that good. The setting at 215 feet would allow for a drawdown of about 75 feet to the pump bowls and an extra 10' to the bottom of the suction line. Of course, the necessary equipment for measuring drawdown and discharge must also be supplied.

Please let us know when the tests might be expected. The City Commissioners are extremely anxious to know how soon the tests will be carried out.

Sincerely,

Bishop and Peterson, Engineers

AAB:dm

c.c. Dean F. Peterson

c.c. Box 484 Ross Covington



TECHNICAL SERVICES INCORPORATED
292 WEST CENTER STREET, PROVO, UTAH

JANUARY 29, 1962

MR. ALVIN BISHOP
71 N. 2ND WEST
LOGAN, UTAH

DEAR ALVIN:

PLEASE BE ADVISED THAT WE HAVE RECEIVED BIDS FROM SEVERAL ORGANIZATIONS TO DO THE TEST PUMPING FOR THE LOGAN WELL AND WE HAVE ACCEPTED THE PROPOSAL SUBMITTED BY THE JOHNSTON PUMP COMPANY WHOSE LOCAL OFFICE IS IN IDAHO FALLS. THIS ORGANIZATION HAS WORKED ACTIVELY IN THIS FIELD FOR A NUMBER OF YEARS AND WE FEEL THAT THEIR PERFORMANCE WILL BE EXCELLENT. THEY HAVE INDICATED THAT THEY WOULD USE 14-INCH PUMP BOWLS AND THAT THEIR UNIT WOULD BE CAPABLE OF DELIVERING 5 SECOND FEET WITHIN THE RANGE OF PUMPING HEADS WE ARE TALKING ABOUT FOR THIS WELL. I HAVE NOTIFIED THEM TO PROCEED AS SOON AS THE WEATHER WILL PERMIT. I HAVE NOT RECEIVED A REPLY AS TO WHEN THEY CONTEMPLATE BEGINNING, HOWEVER, I WILL LET YOU KNOW AS SOON AS THEY HAVE PROVIDED ME WITH THE INFORMATION.

IF THERE IS ANY ADDITIONAL INFORMATION WHICH YOU MIGHT WANT TO KNOW RELATIVE TO THE PUMP TEST PRIOR TO THE ACTUAL BEGINNING DATE, PLEASE LET ME KNOW.

YOURS TRULY,

TECHNICAL SERVICES INCORPORATED

RALPH L. ROLLINS

RLR-JCM



TECHNICAL SERVICES
292 WEST CENTER STREET,

INCORPORATED
PROVO, UTAH

FEBRUARY 1, 1962

MR. ALVIN BISHOP
71 N. 2ND WEST
LOGAN, UTAH

DEAR ALVIN:

I HAVE JUST RECEIVED WORD FROM THE JOHNSTON PUMP COMPANY TO THE EFFECT THAT THEY CONTEMPLATE BEING IN LOGAN ON MONDAY MORNING, FEBRUARY 5, TO SET THEIR EQUIPMENT TO TEST PUMP THE WELL, AND THAT THEY SHOULD BE READY TO START THE TEST SOMETIME ON TUESDAY.

YOURS TRULY,

TECHNICAL SERVICES INCORPORATED

RALPH L. ROLLINS

RLR-JCM

April 3, 1962

C
O
P
Y

Mr. Ray C. Hugie
City Engineer
Logan, Utah

Dear Ray:

This morning I had a short discussion with Mr. Ralph Rollins and Dean K. Fuhriman of Technical Services concerning the repair of the production well at 7th north and 6th east. According to their statements the grout well was placed in the well after the 20 inch casing had been advanced to cover the 16 inch casing, and they felt that a tight seal had been obtained. However, because the pumping equipment showed some indication that sand had been coming down the well they will set and put in another grout well at the junction between the 16 and 20 inch casing. They discussed the plan that they intend to use and I have given tentative approval to the procedure that they intend to follow.

Regarding the pumping tests, however, I feel they should not be responsible for any additional tests that we might consider necessary. Since we are not absolutely sure of the conditions in the well, they are perhaps justified in their attitude that the pumping should be our responsibility. In reconsidering the matter I feel that if they place another grout well at their expense we should be willing to stand the cost of an additional pump test to determine whether or not the yield of the well has been affected. I would, therefore, like to recommend that we proceed along these lines. We could probably schedule the test to be done when the well at 10th north is tested and, therefore, accumulate considerable move-on-time and thereby getting a more reasonable price from the pump people. I would estimate that this pump test including setting the pump, etc. would cost about \$600 for an 8 hour test. Incidentally this should continue to improve the well.

BISHOP & PETERSON

AAB/njm



TECHNICAL SERVICES INCORPORATED
292 WEST CENTER STREET, PROVO, UTAH

APRIL 4, 1962

BISHOP AND PETERSON
71 N. 2ND WEST
LOGAN, UTAH

GENTLEMEN:

WITH REFERENCE TO OUR DISCUSSION OF APRIL 3, RELATING TO THE DRILL CUTTINGS AND SEDIMENTS WHICH HAVE BEEN DEPOSITED IN THE CANAL AT 7TH NORTH AND 6TH EAST, SINCE WE DO NOT HAVE EQUIPMENT TO HANDLE THE CLEANING OF THIS DEBRIS WE WOULD APPRECIATE IT IF YOU COULD REQUEST THE CITY TO MAKE AVAILABLE THEIR LOADER TO REMOVE THE SEDIMENT FROM THE CANAL AND DEPOSIT IT ALONG THE CANAL BANK. WE, OF COURSE, WOULD EXPECT TO PAY THE CITY FOR THE USE OF THEIR EQUIPMENT FOR THIS SERVICE.

YOURS TRULY,

TECHNICAL SERVICES INCORPORATED

D. K. FUHRMAN

DKF-JCM



TECHNICAL SERVICES INCORPORATED
292 WEST CENTER STREET, PROVO, UTAH

JUNE 1, 1962

BISHOP AND PETERSON
725 N. 14TH EAST
LOGAN, UTAH

GENTLEMEN:

ENCLOSED HERewith IS A COPY OF THE REPORT, OF RUSSELL BROWN RELATING TO THE
GROUTING OF THE JOINT AT THE 700 NORTH 600 EAST WELL.

YOURS TRULY,

TECHNICAL SERVICES INCORPORATED

A handwritten signature in cursive script, appearing to read 'D. K. Fuhriman'.

D. K. FUHRIMAN
VICE PRESIDENT

DKF-JCM

ENCLOSURE

CC - RAY HUGIE, CITY ENGINEER (WITH ENCLOSURE)

June 11, 1962

Technical Services Inc.
292 West Center Street
Provo, Utah

Gentlemen:

Enclosed herewith are change Orders 2, 3, and ~~4~~, to our well drilling contract. If these meet with your approval, please sign and return all but one copy.

Bishop & Peterson

BY

Dean

June 11, 1962

Technical Services Inc.
292 West Center Street
Provo, Utah

Logan City
Well Contract
Change Order No. 2

Gentlemen:

From the drilling operations up to this time it is evident that it will be to the advantage of Logan City to have 20" casing extend from ground surface to a depth of several hundred feet rather than the 16" casing specified. Therefore, the following addition shall be made to the plans and specifications.

20-in Drilling and Casing.-- For wells at Sites 1 and 2 holes shall be 20 to 24 inches overall with 20" casing extending from ground surface to depths of 200 feet to 400 feet. Casing shall be new standard well casing having a minimum thickness of 5/16 inch, and shall be driven to refusal or to such depth between 200 and 400 feet as specified by the Engineer.

The full compensation to the contractor for drilling and casing the 20" holes shall be \$27.00 per foot, which price shall include furnishing the shoe, drilling and casing the hole, and providing a tight joint between the 20" casing and any smaller casings that may be used at depths below the bottom of the 20" casing.

For drilling at depths below the bottom of the 20" ^{casing} the bid prices prevail. JXP

approved

Bishop & Peterson

BY J. H. Peterson

The contractor hereby agrees to the terms of the above change order:

June 22, 1962
(Date)

*June 20, 1962
J. H. Peterson*

Technical Services Inc.
Technical Services Inc.
J. H. Peterson, U.P.

June 11, 1962

Technical Services Inc.
292 West Center Street
Provo, Utah

Logan City
Well Contract
Change Order No. ³/₄ BAP

Gentlemen:

Add the following provision:

Subcontract-- With the permission of the Engineer and the Owner, and upon specific acceptance of the Engineer and the Owner of a subcontractor nominated by the contractor; the following items of work may be executed under a subcontract.

a. Bid schedule items 8 through 14 inclusive.

b. Change Orders 2 ^{BAP} and ~~3~~.

All provisions of the basic contract, specifications, and General and Special Conditions shall remain binding upon the Contractor.

Bishop & Peterson

BY J. Peterson

The contractor hereby agrees to the terms of the above change order:

June 22, 1962
(Date)

June 29, 1962
R. H. Hargis

Technical Services Inc.
Technical Services Inc.
by D. L. Lehman, U.P.

June 15, 1962

Technical Services Inc.
292 West Center
Provo, Utah

Gentlemen:

Several months ago we discussed the use of "mill reject" pipe for well casing and it was our understanding that you planned to discontinue this; however, we are aware that the use of this class of pipe has continued. We do not know the reasons why the "mill reject" stencil was placed on the pipe. Presumably this pipe is not of acceptable commercial standard and would not meet the specifications. On the other hand, the causes for rejection may have involved considerations which would in no way impair the suitability of the pipe for well casing.

We would be happy to have you furnish certificates from the mill stating the specific reasons for rejecting the pipe so that we can consider whether it is acceptable or not; in the meantime, we are ruling that pipe stencilled "mill reject" may not be used for permanent well casing.

Yours very truly,

Bishop & Peterson

cc: Andrew Drilling,
Logan, Utah

June 15, 1962

The Galigher Company
545-585 West Eighth South Street
Salt Lake City 10, Utah

Gentlemen:

Referring to your letter dated April 4, 1961, quotation No. 33757, our first well is finally completed and from the test pump it appears we will want to pump approximately 3100 GPM with lift of 170' and are considering preparation of bid information.

Could you furnish typical sample performance curves for impetters in this region of performance? A price quotation would be helpful since we have to make an official estimate.

Yours very truly,

Bishop and Peterson

COPY

COMPLETE STEEL SERVICE FOR THE INTERMOUNTAIN WEST

P.O. Box 300 — Salt Lake City, Utah
Elgin 5 - 6201

P.O. Box 201 — Twin Falls, Idaho
REdwood 3 - 6581

P.O. Box 2316 — Idaho Falls, Idaho
JACKSON 3 - 3220

Salt Lake City, Utah
June 22, 1962

Technical Services, Inc.
292 West Center
Provo, Utah

Gentlemen:

The pipe which we sell as Limited Service Pipe is sold to us on an "as is" basis by the steel mills.

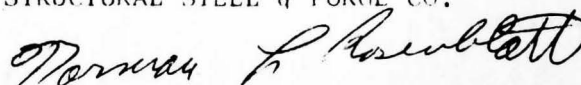
The pipe is rejected from normal line pipe production for several reasons. We are never told on any specific order what the reasons are but in our conversations with the steel mills, we have found that in the case of seamless or welded pipe the material may be rejected due to a slight variation in the wall thickness beyond API or ASTM tolerances. There may be a lack of concentricity. There may be pipe that would have been produced to a specific length and these might be lengths which are out of the tolerance for a given order. In the case of welded pipe, it might be a slight off-weld.

The normal practice of the steel mill is to ship Limited Service pipe that is only a very slight degree below specifications. They do not ship any pipe that is seriously below specifications, the reason being the risk they would run if any of this pipe were used in high pressure applications. While the steel mills do not guarantee this material for any given application, its use for water well casing is well-known and wide spread. Our company, during the past four years, has sold over 3000 ton of this pipe throughout Utah, Idaho, Wyoming, Nevada and Arizona for water well casing and has never had one complaint concerning the quality of the material. It is inspected by our own people upon arrival to insure generally good condition.

Hoping that this information will be satisfactory, I am

Very truly yours,

STRUCTURAL STEEL & FORGE CO.



Norman L. Rosenblatt
Sales Manager



TECHNICAL SERVICES INCORPORATED
292 WEST CENTER STREET, PROVO, UTAH

JUNE 25, 1962

BISHOP AND PETERSON
71 N. 2ND WEST
LOGAN, UTAH

GENTLEMEN:

ENCLOSED HERewith YOU WILL FIND TWO SIGNED COPIES EACH OF CHANGE ORDERS No. 2 AND No. 3. THE ORIGINAL OF EACH OF THESE IS RETAINED FOR OUR FILES. WE WILL APPRECIATE RECEIVING FROM YOU THE CLARIFICATION ON THE PUMP TEST ITEM FOR FUTURE PUMPING SO THAT OUR SUBCONTRACTOR WILL BE AWARE OF THE FACT THAT HE WILL BE ABLE TO COVER THE COST OF SETTING THE PUMPS IN THE PUMPING TIME WHICH YOU PLAN TO USE.

WE ARE ALSO ENCLOSING A COPY OF A LETTER FROM STRUCTURAL STEEL AND FORGE COMPANY IN RELATION TO THE PIPE CASING WHICH WE ARE USING ON THE JOB. WE HAVE NOTIFIED Mr. ANDREW THIS MORNING BY TELEPHONE OF YOUR ACCEPTANCE ON THE TELEPHONE OF THIS PIPE FOR USE IN THE WELLS UNDER THE CONTRACT. WE WOULD APPRECIATE A LETTER FOR OUR FILES FROM YOU RESCINDING THE LETTER OF JUNE 15.

YOURS TRULY,

TECHNICAL SERVICES INCORPORATED

D. K. FUHRIMAN

DKF-JCM

ENCLOSURES

COPY - HOWARD ANDREW

June 27, 1962

Technical Services Inc.
292 West Center Street
Provo, Utah

Logan City
Well Contract
Change Order No. 4

Gentlemen:

Delete the period at the end and add the following
to Article 12 of the Special Conditions:

"except that the minimum amount to be paid to the
contractor for any single test which involves moving the
pumping equipment to a site, and installing it in a well
shall be seven hundred dollars (\$700.00)"

Bishop and Peterson

Dean F. Peterson

The contractor agrees to the terms of the above change
order.

5 July 1962
(Date)

Ralph J. Ralston
Technical Services Inc.

July 11, 1962
R. Ralston

June 27, 1962

Technical Services Inc.
292 West Center Street
Provo, Utah

Gentlemen:

Thanks for forwarding Mr. Rosenblatt's letter of June 22, 1962 clarifying the status of the "mill reject" pipe. This is satisfactory to us and our order prohibiting the use of this pipe for permanent well casing dated June 15, 1962 is herewith cancelled.

Bishop & Peterson

Dean F. Peterson

cc: Logan City



TECHNICAL SERVICES INCORPORATED
292 WEST CENTER STREET, PROVO, UTAH

JULY 6, 1962

BISHOP AND PETERSON
71 NORTH 2ND WEST
LOGAN, UTAH

GENTLEMEN:

WE ARE ENCLOSING HERewith TWO SIGNED COPIES OF CHANGE ORDER No. 4 FOR YOUR FILES.

YOURS TRULY,

TECHNICAL SERVICES INCORPORATED



D. K. FUHRMAN

DKF-JCM

ENCLOSURES



JOHNSTON PUMP COMPANY

4277 EAST 15th AVENUE, BLD. 10, PASADENA, CALIFORNIA

July 30, 1962

T. V. Bishop
Mayor's Office
Logan City Corporation
Logan City, Utah

Dear Sir:

Enclosed please find bowl curves on city pump.

This goes along with the information which Roy brought to you today
July 30th.

If we can help you in any matter you have, please feel free to contact
us.

Yours truly,
JOHNSTON PUMP COMPANY

Forest Jr. Wilson
Forest Jr. Wilson
Purchasing Agent

FJW/des

encl.



JOHNSTON PUMP COMPANY

127 EAST 100TH STREET PASADENA CALIFORNIA

August 7, 1962

Bishop & Peterson
Logan City Engineers
Logan, Utah

Gentlemen:

Received your letter dated August 1, 1962 concerning the following subjects:

1. Drawdown indicator does not function.
Pressure will not hold.

I talked with Mayor Bishop concerning this and it was agreeable with him that when we are in the Salt Lake area with our rig unit to stop by the well location and tighten the fitting that is leaking.

2. No rating table for the orifice discharge meter has been furnished.

Enclosed please find same.

3. No performance curves have been furnished for the pump.

These were mailed to Mayor Bishop's office July 30, 1962. Also specifications and data on subject pump were mailed to Mayor Bishop's office July 31, 1962.

In hopes that this information is as needed and is satisfactory, I remain

Yours truly,
JOHNSTON PUMP COMPANY

Forest Jr. Wilson
Forest Jr. Wilson
Branch Superintendent

FJW/des

encl.



JOHNSTON PUMP COMPANY

3272 EAST FOOTHILL BLVD. PASADENA CALIFORNIA

July 31, 1962

T. V. Bishop
Mayor's Office
Logan City Corporation
Logan City, Utah

Dear Mr. Bishop:

Enclosed please find specs on the Logan City pump.

Yours truly,
JOHNSTON PUMP COMPANY

Forest Jr. Wilson
Forest Jr. Wilson
Purchasing Agent

FJW/des

encl.

August 1, 1962

Johnston Pump Company
South Yellowstone Highway
Idaho Falls, Idaho

Attention: Mr. Gary Fearn

Gentlemen:

Our inspection of your installation under the contract with Logan City shows the following deficiencies:

1. Draw down indicator does not function.
Pressure will not hold.
2. No rating table for the orifice discharge meter has been furnished.
3. No performance curves have been furnished for the pump.

Will you please correct these deficiencies as early as possible?

Bishop & Peterson

cc: Logan City Engineer

Waterworks EQUIPMENT COMPANY

SALES — SERVICE — SATISFACTION

WATERWORKS — SEWAGE TREATMENT — INDUSTRIAL SPECIALTIES

P. O. BOX 236 502 W. 3rd SOUTH Davis 8-8551 SALT LAKE CITY 10, UTAH

August 29, 1962

Dear Customer:

Purity in culinary water supplies has been (and will become even more) the primary concern of municipalities and industry. And, as more communities adopt better water sterilization practices, the problems of costs become paramount.

Enclosed is a short and interesting brochure on the use of Clayton Valves in a Geneva, Switzerland, filtration plant. It is an extremely interesting example of automation in filtration, and deserves your reading.

Enclosed also is a water works catalog sheet on some of the many Clayton automatic valves, which fulfill a tremendous number of water engineering needs. Waterworks Equipment Company is proud to be able to provide these fine Clayton products to you.

Sincerely,

WATERWORKS EQUIPMENT COMPANY



William J. Speir

Vice-President - General Manager

WJS:lbm
Enclosures

BRANCH OFFICES:

Billings: Jim Cronin - Box 797 - AL 2-6228
Great Falls: Irv Hansen - Box 102 - GL 3-2041
Boise: Wayne North - Box 1956 - 375-0550
Pocatello: Leo Conk - Box 508 - CE 2-8496
Cedar City: Karl V. Church - 340 South 500 West - JU 6-8149
Ogden: John Perkins - Box 1562 - EX 3-4233
Provo: Dean Wheadon - Box 131 - FR 3-3955

FAIRBANKS, MORSE & CO.

153 WEST SECOND SOUTH STREET, SALT LAKE CITY 1, UTAH

DISTRICT SALES OFFICE
DAVIS 2-1148

September 18, 1962

Dr. Al Bishop
% Utah State University
Engineering Department
Logan, Utah

Dear Al:

I am attaching performance curves for the pump which was furnished on your order #3492 which we discussed over the phone. In checking the records, I find that we furnished a single stage 12" HC Figure 6927 bowl assembly with 1133 impeller. You will note that the curve is drawn for 1770 RPM and that the full load speed might be slightly less than this. Also there is a little loss in the column pipe so the actual curve would be slightly under that shown on the sheet attached.

I am also attaching a performance curve on a 10" Figure 5813 horizontal split-case pump which would give you 200' of head at 3500 GPM. You mentioned that you might go to a short-coupled turbine pot-type pump. I am attaching a curve #14 XHC which we could fit in very nicely at the same condition. Along with the curves, there are bulletins which will give you ideas for dimensions and layout. If you need estimating prices or other details, please do not hesitate to contact me.

Yours very truly,

FAIRBANKS, MORSE & CO.



D. A. Wolstenholme
Field Engineer

DAW:vp
Att.

THE GALIGHER COMPANY

ESTABLISHED 1901



CABLE ADDRESS
GALSAL

545-585 WEST EIGHTH SOUTH STREET
P. O. BOX 209

SALT LAKE CITY 10, UTAH

— QUOTATION —

TELEPHONE
ELGIN 9-8731
AREA CODE 801

DATE October 4, 1962

Mr. D. F. Peterson
71 North 2nd West
Logan, Utah

YOUR INQUIRY _____

QUOTATION NO. 5399

Subject: Split Case Centrifugal
Pump for Booster Service.

IN REPLY PLEASE REFER
TO QUOTATION NUMBER

Dear Sir:

In reply to your request, we are pleased to submit the following for your consideration.

1 only - Peerless Model 10" A 15 horizontal, split case, double suction, single stage Centrifugal Pump, cast iron case, bronze impeller, and shaft sleeves. Equipped with 200 HP, 1750 RPM, 220-440 volt, 3 phase, 60 cycle drip-proof motor, mounted on cast iron base with coupling. 3500 GPM at 190' TDH requiring 199 BHP.

PRICE, F.O.B. Indianapolis, Indiana-----\$4,295.00

APPROXIMATE SHIPPING WEIGHT: 5,015 pounds.

TRUCK FREIGHT RATE, Indianapolis, Indiana
to Logan, Utah-----\$ 6.34 cwt.

TERMS: Net 30 days.

DELIVERY: 4 to 6 weeks after receipt of order.

In the event of an order, or future correspondence, kindly refer to our quotation number 5399.

We trust that this proposal will have favorable consideration.

THE GALIGHER COMPANY

Sam J. Potts
Sales Engineer

Sam J. Potts/rs

ENCLOSURES: Bulletin B-1300
Curve C-21292

SUBJECT TO CONDITIONS ON REVERSE SIDE

Supplies and Equipment for Every Industry

Manufacturers • Mining • Milling • Laboratory Equipment • Ore Testing • Plant Designing • Construction • Operation

October 6, 1962

William F. End, Vice Pres.
Ross Valve Manufacturing Co.
P.O. Box 595
Troy, New York

Dear Mr. End:

Thanks for your letter of October 1. As I understand the arrangement, Valve B would provide a positive back pressure of at least 30 feet on the well pump outlet. The well pump now operates discharging freely to the canal. We would want this back pressure to be only about 3 to 5 feet of head even when the booster pump is operating in order not to reduce discharge.

What happens when the selector switch is set for operation to canal? Does Valve B stay closed and A open automatically? We will want to discharge the 3500 g.p.m. to canal about 4 months each year for irrigation. The 8 inch valve A does not appear of adequate size to accomplish this? If we use a vertical turbine type booster pump we must provide about 20-30 feet of head on the suction eye of the impeller and we can get this by sinking a casing to this depth and using about 30 feet of pump column. It looks like Valve D would have to be 42 WR-50 RWR type in this case. Perhaps if we used a split case centrifugal we need not be concerned with this positive NSPH on the suction eye. Perhaps the statement of requirements sent you did not clarify these points. May we have your comments? We must have some price information for estimating also.

Sincerely yours,

Dean F. Peterson,
Civil Engineer

cc: John Perkins

COPY

October 6, 1962

Mr. J. R. Carpenter
Northwest Regional Manager
Newport Beach, Calif.

Dear Mr. Carpenter:

Thanks for your October 3 letter. One point not clear is maintenance of back pressure on the pumps so that if distribution line pressure drops too low the increased well discharge will not ruin the well. Will a 12-in No 50 Relief Valve serve this function or is there a better way? We would not want the pressure to drop below about 130 feet on the booster pump discharge side regardless of how low the pressure in the distribution line dropped.

Sincerely,

Dean F. Peterson,
Civil Engineer

DFP:bp
cc: John Perkins

COPY

October 28, 1962

Badger Meter Mfg. Co.
Measure-Rite Division
Covina, California

Gentlemen:

On October 14, I wrote John Perkins of Waterworks Equipment Company about the use of your 12" MLFT-ER-T meter with high velocity propellor to measure 3500nGPM. Waterworks had earlier sent us a proposed layout which located this meter with a 2-ft straight approach pipe between it and the discharge head of a vertical turbine pump. I wanted to be reassured that this meter will satisfactorily measure this discharge under this installation condition. If this is not satisfactory, how long must the straight approach be? We are extremely anxious to go to bid immediately, so we can construct the pump house before winter sets in. We have already been delayed much later than we'd like because of difficulty in obtaining engineering information from the local distributors of Waterworks Equipment. We must move on this project! Can we please have your reply immediately?

Yours very truly,

BISHOP & PETERSON

cc: John Perkins
Waterworks Equipment
Ogden, Utah

COPY

College of Engineering
Utah State University
Logan, Utah

October 31, 1962

C
O
P
Y

Mr. Ralph Johnson
Johnston Pump Company
West Yellowstone Highway
Idaho Falls, Idaho

Dear Ralph:

I believe you gave us the specifications desired on the air-relief valve for the turbine pump, however, we have apparently misplaced these.

Could you drop me a note indicating the size and make of this valve together with the manufacturer's address?

Sincerely yours,

D. F. Peterson

DFP/rs



JOHNSTON PUMP COMPANY

3272 EAST FOOTHILL BLVD. PASADENA, CALIFORNIA

November 6, 1962

College of Engineering
Utah State University
Logan, Utah

Mr. Dean F. Peterson

Dear Dean:

In reply to your letter of October 31, I respectfully submit the following information.

For this application, I would recommend a Clayton Mark, #5330 foot valve. The size required is $1\frac{1}{2}$ " and the retail price of this valve is \$4.94. The name and address of the manufacturer is:

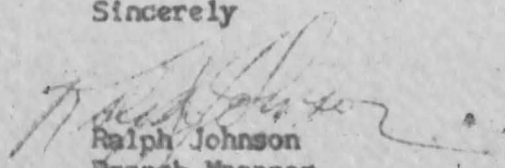
Clayton Mark & Co.
1900 Dempster Street
Evanston, Illinois

This is an all brass, spring loaded valve. The spring assists the operation of the valve by causing it to function a little quicker and it does not hamper the flow of air back into the pump. We use this valve very extensively in our business here and have enjoyed very good success with same.

This valve would be mounted on the back side of the pump where you will find a $1\frac{1}{2}$ " NPT tapped opening which presently has a plug in it. It would be necessary to use a nipple of suitable length from this opening to the outside of the pump, then a 90° elbow and short nipple, or to be more compact, you could use a common street elbow. The Clayton valve will then be mounted in a vertical position.

If we can be of further assistance, please feel free to contact us at any time.

Sincerely


Ralph Johnson
Branch Manager

RJ/ejh



TECHNICAL SERVICES INCORPORATED
292 WEST CENTER STREET, PROVO, UTAH

NOVEMBER 15, 1962

BISHOP AND PETERSON
71 N. 2ND WEST
LOGAN, UTAH

GENTLEMEN:

THIS IS IN RESPONSE TO YOUR LETTER OF NOVEMBER 7, WRITTEN TO THE LOGAN CITY COMMISSION, IN RELATION TO OUR BILL OF NOVEMBER 6. MR. ANDREW, OUR SUBCONTRACTOR ON THIS JOB, HAS INDICATED TO US THAT HIS INTERPRETATION OF THE CONTRACT IS THAT IN THE EVENT OF "CASING DOWN" TO A SMALLER DIAMETER THE EXTRA PIPE WHICH IS IN THE HOLE, UNTIL SUCH TIME AS THE WELL IS FINISHED UNDER THE DIRECTION OF THE ENGINEER, SHOULD BE PAID FOR BY THE CLIENT WITH SALVAGE AND REMOVAL AT THE CLIENT'S OPTION BY ARRANGEMENT WITH THE CONTRACTOR. CONSIDERING THE FACT THAT 10% OF THE OVERALL CONTRACT IS RETAINED AND ALSO THE FACT THAT THIS ADDITIONAL PIPE IN THE HOLE REPRESENTS A LARGE INVESTMENT ON THE PART OF THE CONTRACTOR, THIS WOULD SEEM TO BE A REASONABLE INTERPRETATION OF THE CONTRACT.

THE QUESTION OF OVERLAPPING PIPE AT THE TIME OF FINISHING THE WELL ALSO ENTERS INTO THIS. I AM SURE THAT THE CONTRACT CONTEMPLATES OVERLAPPING AT THE JUNCTION BETWEEN THE TWO PIPE SIZES UPON COMPLETION OF THE WELL. APPARENTLY UNDER YOUR INTERPRETATION OF THE CONTRACT PAYMENT FOR SUCH OVERLAPPING WOULD NOT BE MADE UNTIL THE FINAL COMPLETION OF THE WELL.

WE WOULD APPRECIATE VERY MUCH IF YOU WOULD REVIEW THE CONTRACT IN THE LIGHT OF THIS QUESTION HAVING BEEN RAISED BY MR. ANDREW AND ADVISE US OF YOUR DECISION.

YOURS TRULY,

TECHNICAL SERVICES INCORPORATED

A handwritten signature in cursive script, appearing to read 'D. K. Fuhrman', written over a horizontal line.

D. K. FUHRMAN

DKF-JCM

CC - ANDREW WELL DRILLING CONTRACTORS

November 20, 1962

Technical Services, Inc.
292 West Center Street
Provo, Utah

Gentlemen:

C
O
P
Y

Relative to your question about the payment for double pipe for "casing down" we believe our contract with you is quite clear in its intent. In any case this is clarified by the bid schedule, which you have filled in, in which the casing quantities correspond to the hole quantities and make no provision for the extra payment for the double casing which you allege. Your own interpretation up to this point has apparently been the same as ours and has been established by your own precedent in previous billings over a period of more than a year. Regardless of the merit of the Andrews argument, possible different procedure in other jobs, or the nature of your own arrangements with Andrews by inference or otherwise it would seem that we have no choice but to administer our contract with you on the present interpretation.

Regarding overlap, we could allow a certain amount, say 10 or 15 feet pending completion of the well.

We have permitted the re-use of the casing in question in the past where permanently installed as "new pipe" in interpreting the contract, although we would certainly require bevel ending for welding in the future.

cc: Logan City

DJP
Bishop & Peterson

November 20, 1962

Technical Services, Inc.
292 West Center St.
Provo, Utah

Gentlemen:

Our contract requires you to develop the well by surging or bailing to our satisfaction, but makes no provision for payment over and above the drilling costs. We are anxious that we exploit surge development to the fullest rather than have to do so much overpumping. This seems especially important to us on the island wells where the formation is less favorable than for the others but the very extensive impermeable overburdens mitigate the danger of caving under extensive development.

Recognizing that we may have some difficulty requiring surging to the extent desired under the present payment arrangement we would like your comments on whether you would be prepared to install surge blocks of the kind extensively used in California; carry out a surging program of quality and extent comparable to what is done by the better drillers in that area; and what the costs would be. Surging methods to be used would be similar to those described by Rohwer, by Bennison, etc. and by the Arizona Experiment Station bulletin on the California Stovepipe Method.

Very truly yours,

Bishop & Peterson



TECHNICAL SERVICES INCORPORATED
292 WEST CENTER STREET, PROVO, UTAH

DECEMBER 6, 1962

LOGAN CITY CORPORATION
LOGAN
UTAH


GENTLEMEN:

AS YOU KNOW, ANDREW WELL DRILLING CONTRACTORS OF IDAHO FALLS HAS BEEN APPROVED AS A SUB-CONTRACTOR ON OUR CONTRACT WITH LOGAN CITY FOR WATER WELL DRILLING. WE HAVE RECENTLY HAD DISCUSSIONS WITH MR. ANDREW AND HAVE JOINTLY DECIDED THAT FUTURE PAYMENTS UNDER THIS CONTRACT SHOULD BE MADE IN THE NAME OF BOTH TECHNICAL SERVICES INCORPORATED AND ANDREW WELL DRILLING CONTRACTORS.

THIS LETTER IS TO REQUEST THAT CHECKS FOR FUTURE PAYMENTS UNDER THIS CONTRACT BE MADE PAYABLE TO BOTH ORGANIZATIONS JOINTLY.

YOURS TRULY,

TECHNICAL SERVICES INCORPORATED



D. K. FUHRMAN

DKF-JCM

CC - ANDREW WELL DRILLING CONTRACTORS
BISHOP AND PETERSON ✓



TECHNICAL SERVICES INCORPORATED
292 WEST CENTER STREET, PROVO, UTAH

DECEMBER 6, 1962

BISHOP AND PETERSON
71 N. 2ND WEST
LOGAN, UTAH

GENTLEMEN:

THIS IS IN REPLY TO YOUR LETTER OF NOVEMBER 20 REGARDING AN EXTRA UNDER OUR CONTRACT TO PROVIDE FOR EXTENSIVE SURGING OF THE WELLS NOW UNDER CONSTRUCTION.

WE HAVE GIVEN DETAILED CONSIDERATION TO THIS MATTER ALONG WITH OUR SUB-CONTRACTOR, MR. ANDREW, AND WE PROPOSE TO CARRY OUT THE SURGING PROGRAM BY THE METHODS AND TO THE EXTENT INDICATED IN YOUR LETTER AT A RATE OF \$20 PER HOUR.

WE PRESUME THAT YOU WILL HAVE A CHANGE ORDER ISSUED TO COVER THIS EXTRA WORK.

YOURS TRULY,

TECHNICAL SERVICES INCORPORATED

D. K. FUHRIMAN

DKF-JCM

CC - ANDREW WELL DRILLING CONTRACTORS

Dean's Office
College of Engineering
Utah State University
Logan, Utah

December 13, 1962

C
O
P
Y

Mr. John Perkins
Waterworks Equipment Company
P. O. Box 1562
Ogden, Utah

Dear John:

Thanks for sending up the material on the control valve. It is hard for us to check it, however. The specifications talk about a 2F 2 valve for 150 psi pressure. I cannot identify this valve in your literature nor can I identify the diaphragm control with the air compressor. The same thing is true of the "flo-trol" equipment which I cannot identify in the "roto-trol" information sent.

I am somewhat disappointed at the cost estimate and it is hard for me to see why the control should cost \$5,000 and it will be very hard to get the City to buy this.

It looks like things have ground to a screeching halt here in the light of the bond issue defeat, however, we may be able to revive it. In any case, perhaps you will be in Logan in the next few days.

Sincerely,

D. F. Peterson

DFP/rs

cc: A. A. Bishop

Dec. 14, 1962

Technical Services Inc.
292 West Center Street
Provo, Utah

Logan City Well Contract,
Change Order No. 5

Gentlemen:

The owner anticipates that he may desire a more effective program of development by surging and bailing be carried out on well 1, 2 and/or 4 than is provided for under the present specifications. Therefore, the following addition shall be made to the plans and specifications:

Surging and Bailing.-- When ordered in writing by the engineer the contractor or his subcontractor shall surge and bail the well using solid or valve type surge blocks as agreed by contractor and engineer in order to thoroughly flush the sand and silt from the water bearing gravels surrounding the well. The full compensation for such surging and bailing shall be twenty (\$20) dollars per hour for the actual time that the rig is engaged in surging and bailing. Down time for assembling, rigging up, or repair or recovery of tools shall not be counted.

copy
For surging, the contractor shall provide a surge block suitable to the engineer of a diameter slightly smaller than the diameter of the pipe and shall provide flexible washers of somewhat larger diameter or flexible packing attached to the circumference. The block shall be lowered to appropriate levels as agreed to by the engineer, lowered and raised so that large volumes of water are forced in and out of the perforations through the surrounding gravels, thus dislodging the fine sands and silts into the well where they are to be carried out of the casing hydraulically by raising the surge block to the surface and/or by bailing. The block and attached tool stem shall be of sufficient weight that the block can be rapidly lowered on the downstroke as required.

Ray C. Hughes
For Logan City

Dec. 18, 1962
Date

Bishop and Peterson

V. J. Peterson

The contractor agrees to the terms of the above change order.

Dec 20, 1962
(Date)

for D. K. Lehman
Technical Services Inc.



TECHNICAL SERVICES INCORPORATED
292 WEST CENTER STREET, PROVO, UTAH

DECEMBER 20, 1962

BISHOP AND PETERSON
71 N. 2ND WEST
LOGAN, UTAH

GENTLEMEN:

SUMMARIZING OUR CONFERENCE OF DECEMBER 19, THIS IS TO CONFIRM OUR UNDERSTANDING OF THE ARRANGEMENTS UNDER WHICH IT WAS AGREED THAT WE WOULD PROCEED WITH SURGING AND TESTING OF WELL NO. 4 AS SPECIFIED UNDER THE TERMS OF THE CONTRACT, UNLESS IT SHOULD DEVELOP THAT WELL NO. 4 DOES NOT YIELD AT LEAST 1000 GALLONS PER MINUTE OF FLOW. IF THIS CONDITION SHOULD DEVELOP WE UNDERSTAND THAT THE WELL WOULD NOT BE ACCEPTABLE TO YOU AND THAT THE EXPENSES OF SURGING AND TESTING WOULD NOT BE CHARGEABLE TO LOGAN CITY.

IT WAS ALSO FURTHER AGREED THAT WE WOULD CEMENT IN THE ANNULAR SPACE BETWEEN THE 16 AND 20-INCH PIPES AND THAT THE 16-INCH PIPE WOULD BE LEFT IN THE HOLE ALL THE WAY TO THE SURFACE WHEN THE WELL IS COMPLETED. WE MADE ARRANGEMENTS YESTERDAY TO HAVE THE CEMENTING COMPLETED YESTERDAY SO THIS SHOULD BE READY FOR SURGING ON DECEMBER 26.

YOURS TRULY,

TECHNICAL SERVICES INCORPORATED


D. K. FUHRMAN

DKF-JCM

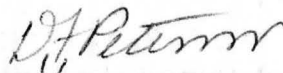
CC - RAY HUGIE

December 26, 1962

Technical Services Inc.
292 West Center Street
Provo, Utah

Gentlemen:

You may surge and bail Well No. 4 as prescribed by Change Order 5 to your contract with Logan City. It is agreed that if this well is accepted by the Owner under the terms of the contract as presently modified, then the terms of Change Order 5 will be in force; otherwise the cost of surging and bailing will be borne by you.



Bishop & Peterson

cc: Ray Hugie,
City Engineer